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ABSTRACT

A study sought to determine whether intermediate age children exposed to open classroom teaching strategy have a more positive attitude toward school than intermediate age children exposed to conventional teaching strategy. The hypothesis was that there would be no significant difference in attitude between the two groups. The study was limited to two elementary schools in the Belle Vernon Area School District of Westmoreland County, Pennsylvania. To obtain the necessary information concerning students' attitudes a closed, "yes" or "no" questionnaire of twenty items was constructed. The results of the study indicated that on the whole the attitudes of the two groups were not significantly different. It was concluded that carpeting, carrels, and open spaces do not guarantee a good educational system, nor do workbooks, desks in rows, and quiet. The key to success in any program is the teacher and her relationship to the students. Based on the findings of this study, the author recommended that in open settings: (1) to fully implement the open concept, the teacher-pupil ratios should not exceed 1 to 20; and (2) there should be continuous training of teachers and others. (Author/SBM)

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AN ANALOGOUS STUDY OF CHILDREN'S ATTITUDES TOWARD SCHOOL IN AN OPEN CLASSROOM ENVIRONMENT AS OPPOSED TO A CONVENTIONAL SETTING

BY

DORIS CONTI ZELI

A RESEARCH PROJECT

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Department Elementary Education

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CHAPTER I

INTRODUCTION

Men have asked one fundamental question since the process of education began: "How shall we teach?" Many answers have been offered only to discover the illusive truth has become more remote.

For the ancient Spartans, the reply was a strict military approach. In fifteenth century Europe, Erasmus suggested conversation rather than memorization while John Comenius' seventeenth century solution was inductive reasoning. Jean Rousseau, in Emile, pleaded for teachers to find the needs and interests of children to assure learning. However, Swiss educator Johann Pestalozzi believed that only with real objects could teachers be effective. In 1837 Friedrich Froebel conceived an idea that social participation facilitated learning; yet the early American dame school responded with memorization, drill, and recitation. Later, Dewey's "learning by doing" philosophy offered another possible solution as educators continued to search for a better answer. They ultimately found it in the self-contained classroom and in departmentalization; in graded and non-graded programs; in ability and informal grouping; in the St. Louis Plan and the Batavia Plan; in I. T. A. and team teaching.

However, since 1969 the Summerhill approach and the British pri-

mary school experience have led the way in man's latest effort to solve the ageless query, with the open classroom concept.

The promise of schools that permit children to learn in a humane atmosphere where they are encouraged to make their own choices soon captured the imagination of teachers everywhere. Openness does not suggest that a child do "his own thing" from morning until afternoon; or having no schedule and a laissez-faire attitude. It does suggest the child should play a role in deciding what he ought to do, that a schedule should be flexible, and that children be given chances to assume responsibility for their own behavior and learning. Its proponents believe that it is the alternative form of education. It is a ray of sunshine. It is education for children today and for children tomorrow.[1]

But, does the vision of such men correspond to realities? Is it the total answer?--or does it open too many new doors?

To the basic question of "How shall we teach?" there is no one answer. Methods and organizational patterns in any one society alter every generation or so as the structure and the ideals of the society change. But open education suggests a genuine compatibility with the structure and the ideals of our twentieth century democracy.

ORIGIN OF THE PROBLEM

Open education is founded on the notion of love, respect, and concern

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[1] John Pflum and Anita Hanks Waterman, Open Education For Me? (Washington, D. C.: Acropolis Books Ltd., 1974), p. 23.

for the dignity of each and every human being. Because children are encouraged to express themselves in all areas with relative freedom, teachers report that they have a more positive self-image, they are more able to express themselves orally and in writing, they develop a higher degree of responsibility and trust, and they have a more positive attitude toward school. It was in this area of student attitude toward school that the writer focused this study.

If open education is the answer for today's children, they should enjoy it, flourish with it, and be eager for the experience it offers.

STATEMENT OF THE PROBLEM

The purpose of this study was to determine whether intermediate age children in an open classroom have a more positive attitude toward school than children in a conventional setting.

HYPOTHESIS

There will be no significant difference in the children's attitude toward school when comparing students exposed to an open classroom teaching strategy and those exposed to a classroom where conventional methods are utilized.

DELIMITATIONS

1. This study was limited to two elementary schools in the Belle Vernon Area School District, Westmoreland County, Pennsylvania.

2. The study involved two groups of forty-five intermediate

age children. Group 1, from the Marion Elementary School, was taught using open classroom teaching strategies. Group 2, from the North Belle Vernon Elementary School, was taught using conventional methods.

3. The children were not matched for this research by mental age, I. Q., or achievement scores.

4. No attempt was made to determine achievement or behavior; only student attitudes toward school were considered.

LIMITATIONS

1. The validity and clarity of the questionnaire.
2. The honesty of the students' responses to the questionnaire.
3. The child's general disposition at the time of the survey.

DEFINITION OF TERMS

1. Teaching strategy - the implementation of a curriculum that reflects the teacher's philosophy and the children's needs.

2. Conventional classroom - a learning situation in which curriculum, methodology, and organization are teacher-centered and formal.

3. Open classroom - a learning situation that is child-centered, flexible, individualized, continuous, and humanized.

4. Contract - a signed agreement between the student and the teacher involving a specific amount of work for a specific amount of time.

5. Level and topical skill sequences - skills in a subject area

listed in levels of difficulty or in topical units for continuous progress.

6. Packets - a teacher-made instructional tool designed to individualize assignments so that a minimum of help is needed.

7. Attitude - the degree of positive or negative affect associated with a specific experience.

CHAPTER II

REVIEW OF LITERATURE

Considerable literature has been emerging in the behavioral sciences to discover fundamental bases for behavior. The recurring theme concerns the efforts to explain behavior through theories of motivation. The basic element, perception, a concept fundamental to behavior analysis, concerns how the individual sees the universe which surrounds him and, more importantly, how he interprets it. Each person is rather unique in the way he relates to the environment. Attitudes contribute to this uniqueness and individual differences among people. Therefore, it appears important to understand the formation of attitudes and the consequential impact they have on perception and ultimately to behavior.

A child's attitude toward school is one of many significant factors contributing to his academic success or failure. Even more tragically, perhaps, is the student's subsequent failure in his adult life because of adverse attitudinal characteristics in interpersonal relationships. A deeper probing and understanding of a child's attitude toward school, himself, his peer group, learning, and his teachers should give insight that may result in not only a more successful school experience but an even more rewarding adult life experience as well.

In light of this, the researcher focused this study of education's affective goals on two main subtopics: (1) the open classroom as opposed to the conventional classroom and (2) student attitudes toward school in each of these settings.

For most Americans, the concept of classroom life in the elementary school is a stereotyped one--thirty children of approximately the same chronological age gathered in one room with one teacher. They have identical lessons, read the same texts, are tested and evaluated at designated intervals. The atmosphere is one of conformity.

Increasingly, attempts have been initiated to change the traditional pattern. Whatever the name of the program or its form, the essential concept underlying these new educational approaches is that children are unique individuals whose learning needs can be met only in a relatively free, active environment where each child can pursue his particular interests and learning needs as they arise.[1] Educational priorities have shifted from content coverage, achievement charts, and regimentation to self-direction, responsibility, decision-making, and self-respect.

One model for an open classroom cannot exist because each class or group of students is unique and must be dealt with in a special manner. However, analysis of the literature on open education reveals a number of common threads within the structural characteristics of "openness."

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[1] Barbara Llitz, The Open Classroom: Making It Work (Boston: Allyn & Bacon, Inc., 1973), p. 4.

In a study by Scheirer,[1] six broad themes of open education are presented:

1. The classroom's physical facilities are flexibly arranged to permit movement of children and furniture as activities necessitate. The physical environment is provisioned with an abundance of motivating materials.[2]

2. Within this highly stimulating environment, each child has a large number of choices among the possible activities, in contrast to being directed by the teacher to follow a set curriculum. Rather than the entire class or a large part of it doing the same thing simultaneously, each child selects his activity or he works in an assigned area at his own pace.[3]

3. Following the emphasis on individual work, another structural element introduced is the "integrated" time schedule and curriculum. As the interests of the child stimulate him to pursue a project involving several of the traditional disciplines, such as reading for information or directions, measuring materials for construction, and writing reports of his activities, he is not constrained by a time schedule and strict curriculum dictating, for example, thirty minutes for reading, forty minutes

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[1]Mary Ann Scheirer, A Study of the Effects of Open Classroom Education on Children's Achievement, Self Concepts and Attitudes Bethesda, Md.: ERIC Document Reproduction Service, ED 085 423, 1972), p. 4.

[2]Ibid.

[3]Ibid., p. 5.

for math and a composition weekly.[1]

4. Since there is little need for homogeneous grouping of children pursuing individual interests, a fourth structural development given emphasis in open education is "family grouping," the combination of different age children in one classroom. As a consequence, children can learn from each other, yet not be stigmatized by being placed in a "slow group," or be constantly bored because the general level of the class is too slow.[2]

5. The teacher's role in an open classroom is just as important as it is in a conventional setting. It becomes one of stimulating, guiding, and facilitating learning rather than directing, disciplining, and didactic teaching.[3]

6. Many open educators stress that traditional evaluative devices, particularly standardized tests, are constructed on the assumptions that one child's learning should be compared with that of other children, and that children of the same age levels should be learning approximately the same material. Asserting these assumptions to be invalid, open educators advocate records of individual accomplishments be maintained by the teacher in the form of regular written comments on each child's work. Written examinations, if used, should be viewed solely as diagnostic measures to uncover areas where further work appears needed,

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[1] Ibid.

[2] Ibid., p. 6.

[3] Ibid.

and not to compare one child with another.[1]

In another study Charles H. Rathbone[2] identified, what he considered, essential characteristics of open education. The salient points of his model follow:

1. The central tenet of open education learning theory states that a child is an active and crucial agent in his learning process. Learning results from this self-initiated, individual interaction with the world he inhabits. The individual child is capable of interacting with almost any element in his environment and learning something from it; such elements include manipulative materials, teachers, and peers. The reactions of people to a child and his activities help him gain a realistic perspective and understanding not only in his future interactions with other people, but in his comprehension of the properties and utilization of things in his environment.[3]

2. The notion of the curriculum being ordered and subject to neat subdivisions into "disciplines" is rejected. The organizing force of a curriculum should not be the structure of codified knowledge or any finite set of skills deemed important by the society supporting the school, but rather the child's own question-asking and problem-setting activities.

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[1] Ibid.

[2] Charles H. Rathbone, "Open Education and the Teacher," (Unpublished paper, Harvard University, 1968), quoted in Philip S. Morse, A Survey of Selected Public Elementary Open Classrooms in New York State, (Bethesda, Md.: ERIC Document Reproduction Services, ED 067 747, 1972), p. 17.

[3] Ibid.

Open education insists on the child's right to pursue whatever question interests him, and his right to articulate freely his perception of any issue.[1]

3. The rejection of disciplinary boundaries has important implications for the psychological climate of the classroom. There is a de-emphasis of competition among peers because a child finds difficulty competing when each is engaged in a different task. Multi-age or vertical grouping leads to a corresponding variety of ability and talent which in turn offers a greater possibility for seeing oneself in a variety of perspectives.[2]

4. A teacher in open education does not merely convey certain facts, skills or concepts to a student, but presents a lateral interchange between two persons of nearly equal status, one of whom may need something possessed by the other. To teach means to facilitate learning by surrounding the child, and helping him into situations where learning can occur. The teacher is the trained observer, diagnostician of individual needs, presenter of environments, consultant, flexible resource, and collaborator.[3]

5. Support of the community, and specifically the parents, is an important element in the success of an open classroom. Only when strong support and understanding in the community exists can success

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[1]Ibid., p. 18.

[2]Ibid., p. 19.

[3]Ibid., p. 20.

be contemplated. Parents can be involved in a number of ways, including the implementation of their skills and experiences in the classroom, assisting the teachers with housekeeping, providing needed materials, and serving in the library or in other related areas.[1]

6. Another factor, training and retraining of teachers and others related to the program, is a mandatory component of "openness" and it must be continuous.[2]

Not only the two preceding models but any model of open education is dependent on various intrinsic and extrinsic factors to be successful. This opinion was expressed very strongly by Hertzberg and Stone who, along with many other current writers have defined the need for a move toward a more open and informal approach to education. They emphatically state: "Open education can work, in general and in most conditions--and it does."[3]

Additionally, a team of American teachers headed by John Pflum and Anita Waterman further support change in American education by asserting that freedom with responsibility can make open education work. Fundamentally, the Pflum and Waterman theory asserts that open education works for teachers who care and it works for children.

Pflum and Waterman further demonstrate: "Since the school is

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[1]Ibid., p. 21.

[2]Ibid.

[3]Alvin Hertzberg and Edward F. Stone, Schools Are for Children (New York: Schocken Books, 1972), p. v.

an inevitable part of our life, it must play a role in helping us to arrive at some conclusions to the problem of life's meaning."[1] The open concept suggests this responsibility belongs to the school and should be provided in the structure of its programs.

Pflum and Waterman emphasize there is no denying learning is essential; scholarly pursuit and research necessary; knowledge of cultural heritage indispensible. However, it is not difficult to note that a child's academic experiences are often rather empty. Much is meaningless! The vital spark of personal concern is too often missing. The all-important search for meaning in life is not a search for either abstract or concrete knowledge; it is a distinctly personal quest that requires development of the affective areas as well as the cognitive and psychomotor. It is their opinion that open education can best prepare the child for living today and tomorrow because openness considers all facets of the child's development critical enough to be approached individually.

Utilizing an organizational pattern characterized by team teaching, nongradedness, continuous progress, student contracts, learning packets, and parent involvement, Pflum and Waterman confidently believe they are giving children at the Stayer Research and Learning Center at Millersville State College, Millersville, Pennsylvania, the opportunity to mature into independent, self-directed, responsible adults.

Barth makes a similar assertion. He states: "I am convinced

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[1]Pflum and Waterman, Open Education, p. 15.

that open education both places priority on these qualities of human life [finding meaning in and enjoying the many dimensions of existence] and can provide the means most likely to result in their development."[1]

Blitz follows the thinking of Froebel, Montessori, Dewey, Isaacs, and Piaget in drafting the wheel of open education. Blitz states:

> All innovators share a deep respect for the individuality of children and for the right of the student to take responsibility for the direction of his learning. Most will agree that:
>
> 1. children should have the right to pursue individual interests and activities.
> 2. children need to be actively engaged with their environment and other people in order for meaningful learning to occur.
> 3. the environment is of major importance in structuring the learning of the child.
> 4. children learn at their own pace and with their own particular learning styles.
> 5. learning should be exciting and enjoyable.
> 6. the teacher's role should be that of diagnostician, guide, and stimulator.[2]

On the basis of the foregoing, Blitz reaffirms Piaget's theory that the child is the principal agent in his own education and mental development.

In spite of much support, criticism and opposition have been directed toward the open concept in education. H. C. Sun[3] points out that education based upon living experience cannot be contemptuous of the organi-

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[1]Roland S. Barth, Open Education and the American School (New York: Schocken Books, 1972), p. 3.

[2]Blitz, The Open Classroom, p. 3.

[3]H. C. Sun, "The Open Classroom: A Critique," in Curriculum: Quest for Relevance, 2nd ed., edited by William Van Til (Boston: Houghton Mifflin Co., 1974), p. 224.

ization of facts and ideas. He insists on a balance between a child's personal fulfillment in school and the art of teaching itself. Furthermore, Bruner warned that Johnny may be happy but he may be an idiot.[1] Featherstone cautions about faddishness. To him the idea of informal schools alone is no more likely to solve or cancel out the recurring problems in education than did the gimmickry of educational technology, abstract versions of progressive education or the fake distinctions between child-centered and teacher-centered classrooms.[2] A. S. Neill's Summerhill formulated a theory on the informal education of children that has been both championed by some of the world's leading thinkers and utterly derided by scholars and specialists of equal eminence.[3]

However, Charles Silberman supported the move to informal education when he stated:

> It would be satisfying, of course, to be able to point to statistical data showing clear superiority for informal schooling. The fact that such data is not at hand in no way suggests that differences in educational strategy are unimportant, only that we look in the wrong place to find their effects. As the National Foundation for Educational Research suggests in its report to the Plowden Committee, the consequences of different modes of schooling should be sought less in academic attainment than in their impact on how children feel about themselves, about

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[1] Bruner, quoted in H. C. Sun, "The Open Classroom: A Critique," in Curriculum: Quest for Relevance, 2nd ed., edited by William Van Til (Boston: Houghton Mifflin Co., 1974), p. 224.

[2] Joseph Featherstone, "Tempering a Fad," in Curriculum: Quest for Relevance, 2nd ed., edited by William Van Til (Boston: Houghton Mifflin Co., 1974), p. 212.

[3] Summerhill: For and Against, ed. Harold H. Hart (New York: Hart Publishing Co., 1970), p. 7.

> school, and about learning. For three hundred years or more, schools have been denounced for their capacity to destroy children's spontaneity, curiosity, and love of learning, and for their tendency to mutilate childhood itself. To create and operate schools that cultivate and nurture all these qualities without reducing children's academic attainment . . . . . this is a magnificent achievement.[1]

Proponents of open education point out that childhood and the years spent in school are valuable in and of themselves and not merely as a time to acquire particular cognitive skills preparatory for the adult role to follow in the world of work.[2] This underlying assumption of open education was probed and analyzed by Heather S. Doob[3] who concluded that supporters of the open education movement are justified in believing that a child should enjoy school and that "openness" does provide an atmosphere productive of such enjoyment.

Roland S. Barth, one of the early advocates of open education, considers seven characteristics of open education associated with a child's enjoyment of school:[4]

> 1. A child's enjoyment of school is related to the number of significant options available to him each day.
>
> 2. A child's enjoyment of school is related to his having significant choice in determining the activity in which he will be engaged.

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[1] Charles E. Silberman, Crisis in the Classroom (New York: Random House, 1971), p. 262.

[2] William Glasser, Schools Without Failure (New York: Harper & Row, 1969), p. 32.

[3] Heather S. Doob, Summary of Research on Open Education (Bethesda, Md.: ERIC Document Reproduction Service, ED 087 093, 1974), p. 12.

[4] Roland S. Barth, "When Children Enjoy School: Some Lessons from Britain," Childhood Education 46 (January 1970): 196-98.

3. A child's enjoyment of school is related to his being able to pose his own problems and determine the manner in which he will pursue them . . . with respect to the materials and activities available.

4. A child's enjoyment of school is related to the extent he is permitted to collaborate with his peers.

5. A child's enjoyment of school is related to the extent to which he is trusted by adults.

6. A child is likely to enjoy school to the extent that it has a climate of consistent order.

7. A child's enjoyment of school is associated with the extent to which explicit and implicit comparisons between his performance and the performance of the other children are minimized.

Proponents of open education view the increased enthusiasm and enjoyment of learning coupled with greater respect for different personalities and growth patterns as vital (if not more important) as improved scores on standardized achievement tests. Children, they contend, will develop more positive attitudes, confidence, independence, and self-esteem as a result of open education, and these qualities are as valuable to them now and in later life as an increased proficiency in mathematics.[1]

The movement toward open education incorporates the assumption that children's attitudes toward school can be changed by modification of their institutional environment. This is reflected in a study by Richard Gibboney and Michael G. Langsdorf.[2] A more positive attitude toward school was observed in a group of children in the Alternative School

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[1] Doob Research on Open Education, p. 12.

[2] Richard A. Gibboney and Michael G. Langsdorf, Final Evaluation Report for the Alternative Schools Project, 1971-72, (Bethesda, Md.: ERIC Document Reproduction Service, ED 067 775, 1972), p. 15.

Project undertaken by the Bureau of Elementary and Secondary Education, Washington, D. C. The Alternative students expressed a better attitude about school in every dimension. Students who had "mixed feelings" and a small number with negative attitudes were responding to a question asked of them to cite aspects of the traditional school from which they had come that they felt were superior to the Alternative School. Eighty-five percent indicated they had no intention to return to the conventional school. Data summarized below are deemed important in this study:

1. Attitude toward teachers:	Alternative school students were more positive.
2. Student decision-making:	Alternative students indicated a much higher involvement.
3. Social concerns:	Alternative students perceived themselves as more involved than did the control students.
4. Course evaluation:	Alternative students were more positive about their courses.
5. Affective concerns:	Alternative students expressed better feelings about school.
6. Student relationships:	Alternative students perceived less friction and more amiability.
7. Equality of opportunity:	No difference.

F. S. Wilson, T. Stuckey, and R. Langevin[1] in a study conducted in Toronto, Canada, compared eleven and twelve-year old pupils in four schools, two in open plan schools and two in traditional schools. They

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[1] F. S. Wilson, T. Stuckey, and R. Langevin, "Are Pupils in the Open Plan School Different?" The Journal of Educational Research 66 (November 1972): 116-17.

found that in almost every area the attitude of the open plan pupils was significantly more positive toward school than the attitude of the students in the conventional schools. For them, school was more active and potent. The open plan students viewed themselves keener, more interesting, deeper thinkers, happier, and more likable.

Similar conclusions were also evident in another research study concerning open education and attitudes of students. O. A. Oldridge[1] conducted his study in the Overlander Elementary School, British Columbia following a one-year old open program with no outside control. Children above the primary level (132 of the total school population of 215) were given an attitude questionnaire. The responses of the students indicated a highly favorable attitude toward the open school. Seventy-five percent of the children enjoyed the environment of Overlander open school more, in comparison, than attending the conventional school.

However, a similar but contrasting study by Mary Ann Scheirer[2] tested 1,163 children in one open classroom school and five conventional schools using Stanford Achievement Tests, the Children's Self Concept Indicator, and the Children's Attitudinal Range Indicator. Positive attitudes were not found. Data were collected four to five months after the

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[1] O. A. Oldridge, Overlander: A Study of Instructional Innovation Involving Beginning Teachers Attempting to Nongrade an Open Area Elementary School (Bethesda, Md.: ERIC Document Reproduction Service, ED 068-442, 1972), p. 42.

[2] Mary Ann Scheirer, A Study of the Effects of Open Classroom Education on Children's Achievements, Self Concepts, and Attitudes (Abstract, M. A. thesis, SUNY at Binghamton, N. Y., 1972).

initiation of the open classroom methods, as a preliminary indicator of the effects of these methods. No significant differences in achievement were evident between the open and the conventional schools. The effects of intelligence and parent socio-economic status were measured and controlled by covariance methods. Both self concept and attitude toward school were significantly less positive in the open school than in the conventional schools. However, these results are viewed by the researcher as tentative because of the very limited time interval between the beginning of the open education program and the collection of her data.

An extensive study by Bruce W. Tuckman and others[1] reveals more positive self-appraisals and attitudes on the part of open classroom children than pupils in the control group from the conventional schools. Using the School Sentiment Index, Intermediate and Primary forms, thirty classrooms were observed and tested on two occasions. The testing manual published by Instructional Objectives Exchange[2] reports Kuder-Richardson[3] (K-R) reliability coefficients of .80 and .72 for the two forms used. In this study, reliabilities of .89 and .77 ere obtained.[4] These results on attitudes toward school show in grades one to three and four to five the

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[1]Bruce W. Tuckman et al., Evaluating the Open Classroom (Bethesda, Md.: ERIC Document Reproduction Service, ED 080 177, 1973), p. 9.

[2]A non-profit educational corporation which cooperates closely with the UCLA Center for the Study of Evaluation in exploring how objectives are used at various stages of the evaluation process.

[3]Richard H. Gaylord, Estimating Test Reliability from the Item-Test Correlations, Educational and Psychological Measurement, 1969, 29, 303-304.

[4]Tuckman, Evaluating the Open Classroom, p. 5.

open classroom approach has led children to have more positive attitudes toward school. Thus, the research concluded that open classrooms produce more positive affective effects than do traditional classrooms.[1]

The preceding studies are of twofold importance: (1) they represent careful research in affective areas of child development and (2) they do suggest, for the most part, a genuine compatibility of open education with the needs and interests of this generation of children.

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[1] Ibid., p. 9.

CHAPTER III

PROCEDURES

The initial step in this study was to obtain consent to make a comparison between the open classroom and the conventional classroom from Mr. Thomas Gilmer, Superintendent, Belle Vernon Area School District, Westmoreland County, Pennsylvania.

The population for this research consisted of the intermediate age students in the Marion Elementary School and the North Belle Vernon Elementary School in the Belle Vernon Area School District. From this population, forty-five students from the open classroom in the Marion Elementary School and forty-five students from the conventional classrooms in the North Belle Vernon Elementary School were chosen as the sample. Utilizing a table of random numbers, fifteen fourth graders, fifteen fifth graders, and fifteen sixth graders were selected from each group for the sampling. No consideration was given to intelligence, sex, school achievement, and socio-economic background.

To obtain the necessary information concerning the student's attitude toward school, the questionnaire method of survey was used. A closed, "yes" or "no" questionnaire of twenty items was constructed using adapted material published by Instructional Objectives Exchange, Los Angeles, California.

A pilot study conducted in January 1975, pretested the questionnaire on thirty intermediate age students at a third school location, the Vernon Elementary School, Belle Vernon Area School District. Ten fourth, ten fifth, and ten sixth grade students were selected using a table of random numbers.

In February 1975 the author administered the final questionnaires to Group 1, the fort -five children in the Marion Elementary School open classroom in Pod D and to Group 2, the forty-five children in the North Belle Vernon Elementary School in the auditorium. Directions to the students for completion of the questionnaire were given orally.

The data gathered from the ninety questionnaires were next subjected to statistical analysis and interpretation. Twenty tables were constructed where responses and percentages are shown. Chi-square analysis was used to determine whether significant differences in attitude exist between the two groups.

CHAPTER IV

ANALYSIS OF DATA

In the effort to answer, "How shall we teach today's children effectively?" the author has concentrated this study on one of the many significant factors contributing to a child's success or failure--his attitude. Insight into the affective areas of learning and the development of positive attitudes toward school must be the goal of those charged with the education of the young.

The available literature to date reveals that those who advocate open education have not made claims of greater academic achievement. Research has shown only that achievement in an open classroom is comparable to that in a conventional setting. If, however, research can show that along with comparable academic achievement, "openness" stimulates significant positive attitudes toward school, it follows that open education might, indeed, suggest a genuine compatibility with contemporary education.

In a survey conducted by the author using a questionnaire (See Appendix A) constructed to evaluate the children's attitude toward the school environment in which they function daily, forty-five children from a conventional setting at North Belle Vernon Elementary and forty-five

children from an open classroom at Marion Elementary were asked to furnish their opinions.

Data compiled from the ninety questionnaires of the two groups were tabulated according to "yes" and "no" responses along with respective percentages. The statistical device used to analyze the survey data for significance was the nonparametric chi-square (X^2) test. A chi-square value was determined for each of the twenty questions. This figure was compared to a chi-square table of a statistics textbook[1] at one degree of freedom at the .05 and the .01 levels where it was determined that values of 3.84 and 6.63 respectively were necessary to reflect significance.

The following tables exhibit a consolidation of the questionnaire data and an analysis for each of the questions in the survey.

TABLE 1

EACH MORNING I LOOK FORWARD TO COMING TO SCHOOL

Question No. 1	YES		NO	
Student Responses	No.	%	No.	%
Marion	32	71.1	13	28.9
North Belle Vernon	39	86.7	6	13.3
Total	71	78.9	19	21.1

Chi-square: 3.27 No statistical significance

Although the chi-square statistical value of 3.27 concerning the atti-

[1] Taro Yamane, Statistics: An Introductory Analysis (New York: Harper & Row, 1967), p. 879.

tudes represented by this question is not significant, there are, however, numerous implications that manifest themselves in subsequent questions which warrant a deeper analysis of this attitudinal finding. To begin with, the direction of the deviation of this response is one of four in the opposite direction from the others. Almost eighty-seven percent of the children in the conventional classroom at North Belle Vernon responded "yes" to this question in contrast to 71.1 percent of those surveyed at Marion's open classroom. A possible reason for this might be noted. In Chapter I it was stipulated that no consideration would be given to the children's socio-economic background. However, the children at North Belle Vernon come from predominantly disadvantaged areas of the school district whereas the Marion students are drawn, for the most part, from the more affluent sections. This factor, in itself, could exert an influence that might tend to provide a more pleasant atmosphere for the Marion group as a whole. A happier environment in their homes is more conducive to play and activities that children find stimulating. The response of seven more affirmative answers at North Belle Vernon might well reflect the desire to escape from an uncomfortable home environment.

Responses to subsequent questions readily reveal a far greater consistency at Marion than at North Belle Vernon. Responses to questions 4, 8, 9, 10, 12, 14, 17, 18, and 20 by the North Belle Vernon children do not exhibit the same positive attitude toward school that is, at first glance, reflected in this question.

TABLE 2

THERE ARE MANY DIFFERENT LEARNING ACTIVITIES AT SCHOOL FROM WHICH I CAN CHOOSE WHAT I WOULD LIKE TO DO

Question No. 2	YES		NO	
Student Responses	No.	%	No.	%
Marion	45	100.0	-	-
North Belle Vernon	40	88.9	5	11.1
Total	85	94.4	5	5.6

Chi-square: 5.29 Level of significance: .05

Unanimous agreement--the only attitude to reflect a one-hundred percent response--was affirmatively expressed by the Marion open classroom group compared to 88.9 percent of the conventional classroom.

Although the Marion open classroom has been operational only six months, it appears the children there are keenly aware of the diversity of learning experiences now available to them, and of the absence of varied learning activities during their previous years in school.

Implementation of the curriculum at North Belle Vernon is focused on the textbook in contrast to the approach utilized at Marion, where the textbook is used only as a supplement. By utilizing contracts, team teaching, family grouping, skill sequences, programmed materials, packets, learning stations and audio-visual equipment, the curriculum exposes the children daily to varied learning activities. It is interesting to note that all the children surveyed at Marion were aware of this advantage.

TABLE 3

ALL THE GROWN-UPS AT MY SCHOOL ARE FRIENDLY

Question No. 3	YES		NO	
Student Responses	No.	%	No.	%
Marion	38	84.4	7	15.6
North Belle Vernon	19	42.2	26	57.8
Total	57	63.3	33	36.7

Chi-square: 17.29 Level of significance: .001

This question may at first appear to be peripheral to determining children's attitudes toward school. However, the most significant difference, it is interesting to note, is found here. Slightly more than eighty-four percent of the children at Marion--twice the number of the other group--reflected a very positive relationship with the grown-ups at school in contrast to 42.2 percent of the children at North Belle Vernon.

Furthermore, utilizing the chi-square technique of statistical inference, the chi-square value of 17.29 obviously is highly significant and the question may not be as peripheral as first thought.

In Table 4, which follows, appears the first inconsistency on the part of North Belle Vernon students relative to question one. Although only 13.3 percent of the children at North Belle Vernon's conventional classroom responded negatively in question one that they did not look forward to coming to school each morning, 46.7 percent stated in this question

TABLE 4

I LIKE TO STAY HOME FROM SCHOOL

Question No. 4	YES		NO	
Student Responses	No.	%	No.	%
Marion	19	42.2	26	57.8
North Belle Vernon	21	46.7	24	53.3
Total	40	44.4	50	55.6

Chi-square: 0.18 No statistical significance

they like to stay home from school. In contrast, 42.2 percent of the children from the open classroom indicated a preference for staying at home from school. This vacillating attitude on the part of the children surveyed at North Belle Vernon is seen again as subsequent questions are analyzed.

This question revealed that a slightly higher percentage of the North Belle Vernon students would rather stay home from school than would Marion students. This poses a question: Does "home" mean the same as staying in the house or does "home" represent a larger environment where children might roam?--an interesting and puzzling question.

In Table 5, exhibited below, the third most significant difference in the survey is found for this question. Almost all the children (95.6%) in the open classroom of Marion Elementary indicated they thought their school looks nice, whereas 73.3 percent of the North Belle

TABLE 5

MY SCHOOL LOOKS NICE

Question No. 5	YES		NO	
Student Responses	No.	%	No.	%
Marion	43	95.6	2	4.4
North Belle Vernon	33	73.3	12	26.7
Total	76	84.4	14	15.6

Chi-square: 8.46 Level of significance: .01

Vernon group responded similarly. It appears that, as in question two, students at Marion after just six months of "openness" are keenly aware of the attractive environment in which they perform daily. Only two of the forty-five children expressed dissatisfaction with the physical appearance of their school as contrasted to twelve children of forty-five at North Belle Vernon.

The necessity for a school climate conducive to learning is implied. The significance here in favor of the open classroom suggests a highly favorable teaching-learning setting.

Table 6, shown below, reveals that slightly more than eighty-two percent of the children in the Marion open classroom group expressed the opinion that a new child could make friends easily in their class while 68.9 percent of the children in the North Belle Vernon group expressed similar feelings. Although the difference is not statistically

TABLE 6

I THINK A NEW CHILD COULD MAKE FRIENDS EASILY IN MY CLASS

Question No. 6	YES		NO	
Student Responses	No.	%	No.	%
Marion	37	82.2	8	17.8
North Belle Vernon	31	68.9	14	31.1
Total	68	75.6	22	24.4

Chi-square: 2.17 No statistical significance

significant, this attitudinal finding does, at least, suggest that social relationships necessary for a child's development are more apt to be nurtured in an open environment. Interaction between student and teacher and between students themselves is more apparent in an atmosphere of relative freedom. The development of strong bonds built upon mutual trust and responsibility, it appears, is greater in a setting where a high priority is given to forming more positive human relationships.

Table 7, which follows below, exhibits almost identical data for this question. Twenty percent of the survey group at North Belle Vernon indicated that school was too much work whereas 22.2 percent at Marion expressed this opinion. It is, in both groups, clearly a small percentage who have negative feelings concerning the workload. In light of the exposure to many innovative programs at Marion this might suggest a feeling of being overwhelmed with independent tasks to be completed. A

TABLE 7

I DON'T LIKE SCHOOL BECAUSE
IT'S TOO MUCH WORK

Question No. 7	YES		NO	
Student Responses	No.	%	No.	%
Marion	10	22.2	35	77.8
North Belle Vernon	9	20.0	36	80.0
Total	19	21.1	71	78.9

Chi-square: 0.07 No statistical significance

slower pace at North Belle Vernon might be reflected in somewhat fewer of the children feeling overworked.

TABLE 8

MOST SCHOOL DAYS SEEM LIKE
THEY WILL NEVER END

Question No. 8	YES		NO	
Student Responses	No.	%	No.	%
Marion	18	40.0	27	60.0
North Belle Vernon	32	71.1	13	28.9
Total	50	55.6	40	44.4

Chi-square: 8.82 Level of significance: .01

The second largest statistical variance in attitudes was noted for this question. Also, again, it should be noted, clearly reflected in the answers

to this inquiry is the inconsistency of the replies by the North Belle Vernon students to question one. In the initial question they overwhelmingly (86.7%) looked forward to coming to school in contrast to the Marion response (71.1%). In an almost about-face attitude to this question, 71.1 percent of the North Belle Vernon group indicated their school days seemed like they would never end--a rather dismal outlook--in contrast to the Marion students of whom less than one-half (40.0%) exhibit similar feelings.

The obvious question relative to this finding simply is, why does such a significant difference arise, especially considering the enthusiasm exhibited, particularly by the North Belle Vernon group, in looking forward to coming to school? Perhaps the important aspect which should be considered concerns the basic nature of these two groups. The one group--Marion--is structured considerably different than the other--North Belle Vernon. The open classroom is more informal and individually oriented.

The North Belle Vernon children indicated an eagerness to leave the home environment each morning to come to school but then find themselves in a conventional classroom structure that fails to sustain their interest, to challenge, to encourage, to inspire and to accept them.

The more positive attitude of the Marion group, it appears, may be associated with the feelings of greater individual accomplishment which is of longer lasting duration triggering, as a result, increased motivation. This becomes even more apparent when conditions peripheral to academics, making friends easily, for example, are similar. Separating social functions from accomplishment it appears that achievement, growth, and devel-

opment acquire significant dimensional differences. The Marion group, it appears, because of its high degree of informality has a greater proclivity toward accomplishment. They can to a greater extent shape their environment where their counterparts seem shaped by the environment.

TABLE 9

THIS SCHOOL HAS EVENTS ALL THE TIME THAT MAKE ME HAPPY I ATTEND SCHOOL HERE

Question No. 9	YES		NO	
Student Responses	No.	%	No.	%
Marion	36	80.0	9	20.0
North Belle Vernon	27	60.0	18	40.0
Total	63	70.0	27	30.0

Chi-square: 4.29 Level of significance: .05

Table 9 statistics indicate the children at Marion overwhelmingly (80.0%), as compared to North Belle Vernon (60.0%), considered their school as having events all the time that made them happy they attended school there. Event is generally defined as a noteworthy happening. What, then, are the happenings they considered noteworthy that made this attitude the sixth most significant in the survey?

It appears that visits by resource people, team teaching, extensive use of audio-visual equipment, art, music, and drama presentations provide noteworthy happenings.

These events evoked positive feelings in the "open" group. Admittedly, no instructional program is the total answer but the attitudes of the Marion group certainly give encouragement to the proponents of "openness."

TABLE 10

I FEEL GOOD WHEN I'M AT SCHOOL

Question No. 10	YES		NO	
Student Responses	No.	%	No.	%
Marion	32	71.1	13	28.9
North Belle Vernon	25	55.6	20	44.4
Total	57	63.3	33	36.7

Chi-square: 2.34 No statistical significance

The school child must enjoy an environment wherein he can develop an inner self, a set of values and goals, and a style of thinking and living that are his own--literally his own.[1] At Marion thirty-two of the children (71.1%) felt good while at school compared to twenty-five (55.6%) at North Belle Vernon. Although statistically not significant, it does reflect a healthier social attitude on the part of the open classroom group at Marion. It appears that this more positive reflection is encouraged by the approach at Marion where greater emphasis is placed on the individual than is the situation at a more conventional setting. Hassett and Weisberg point out:

[1] Joseph D. Hassett and Arline Weisberg, Open Education (Englewood, New Jersey: Prentice-Hall, 1972), pp. 55-56.

> The objective is to help the child to retain his personal integrity while participating as a member of a group. Socialization that submerges the child into a class and robs him of his uniqueness is to be discouraged. Rather each child's individuality must be stressed within a healthy social environment.[1]

Parents, as well as teachers in the open classroom environment, must share the role in this respect. Unfortunately, there is very little a teacher can do about home climate except to improve it to the fullest of her capabilities.

TABLE 11

SCHOOL IS A GOOD PLACE FOR MAKING FRIENDS

Question No. 11	YES		NO	
Student Responses	No.	%	No.	%
Marion	40	88.9	5	11.1
North Belle Vernon	44	97.8	1	2.2
Total	84	93.3	6	6.7

Chi-square: 2.86 No statistical significance

The importance of school as a good place for making friends did not reflect a great disparity between the two groups. Both groups exhibited highly positive attitudes. The conventional classroom from North Belle Vernon, however, responded almost unanimously--97.8 percent; the open classroom respondents recorded at 88.9 percent. Regard for the social aspect of school seems to be slightly more important

[1] Ibid.

to the conventional classroom student. Perhaps because of the relative freedom and the almost constant opportunity to socialize, the students in an open classroom are more intellectually motivated and less interested in forming friendships. This appears to be an important area of inquiry.

TABLE 12

I LIKE SCHOOL BECAUSE THERE ARE SO MANY INTERESTING THINGS TO DO

Question No. 12	YES		NO	
Student Responses	No.	%	No.	%
Marion	40	88.9	5	11.1
North Belle Vernon	33	73.3	12	26.7
Total	73	81.1	17	18.9

Chi-square: 3.55 No statistical significance

Just bordering on significance at the .05 level with a chi-square value of 3.55, it is interesting to note that in this question both groups displayed less positive attitudes toward the "interesting things to do at school" than toward the learning activities at school in question two. It appears they are both exhibiting a greater inclination toward the learning activities they experience each day than the lesser academic activities.

Because of schedule conflicts the weekly activity period recently had been taken from the children at the Marion open classroom. Their

disappointment might be reflected in their less positive response. In question two all forty-five responded positively compared to forty in this question. Ironically, at North Belle Vernon where activity periods are still scheduled, only thirty-three responded positively to this question. Questions 2, 9, and 12 exhibited a more positive consistency on the part of the children in the open classroom in contrast to North Belle Vernon when evaluating learning activities, school events, and the "interesting things" available to them.

TABLE 13

MY TEACHER IS TOO BUSY TO HELP ME WHEN I NEED HELP

Question No. 13	YES		NO	
Student Responses	No.	%	No.	%
Marion	1	2.2	44	97.8
North Belle Vernon	5	11.1	40	88.9
Total	6	6.7	84	93.3

Chi-square: 2.86 No statistical significance

All but one of the children surveyed at Marion's open classroom indicated the teacher is available and willing to help when they need help. Forty of forty-five students at North Belle Vernon responded similarly. Although the disparity is not statistically significant it nevertheless favors the open classroom setting. The availability of instructional aids, the presence of a media specialist, student teachers,

and family grouping could perhaps have influenced the Marion group's almost unanimous response.

The question of role definition of the teacher in the open classroom or the conventional classroom is difficult, if not impossible, to answer. In either situation it extends from giver of information to guide, helper, confidant. The teacher remains the interested, compassionate, creative, resourceful adult--the single most important person in the classroom.[1]

TABLE 14

IT WOULD BE NICE IF I NEVER HAD TO COME BACK TO SCHOOL AGAIN AFTER TODAY

Question No. 14	YES		NO	
Student Responses	No.	%	No.	%
Marion	7	15.6	38	84.4
North Belle Vernon	16	35.6	29	64.4
Total	23	25.6	67	74.4

Chi-square: 4.73 Level of significance: .05

The sixth greatest disparity in student attitude was recorded for this inquiry. The students at Marion (15.6%) were remotely negative in this attitude when compared to the North Belle Vernon group (35.6%). Once again, the inconsistency of attitudes of the North Belle Vernon group relevant to question one appears. It will be recalled that 86.7 percent of the students at North Belle Vernon looked forward each

[1] Ibid., pp. 108-113.

morning to coming to school. In this question, slightly more than one-third of the group indicated they would not like to return to school. It has already been pointed out for question one that perhaps the anticipation of going to school was an escape from an unfavorable home environment. Analysis has revealed that once at school, the North Belle Vernon group displayed considerably less positive attitudes in comparison to the open classroom group. The general attitude expressed at North Belle Vernon poses several interesting questions: If these students exhibit such strong desires to come to school, subsequently express rather negative feelings toward school, and then find it nice to consider never returning to school, where, literally, do they want to go? Do they want to return home or do they have some other destination in mind? The Marion group continues to reflect a substantially consistent pattern of answers.

TABLE 15

I LIKE IT WHEN MY TEACHER TEACHES THE ENTIRE CLASS AT THE SAME TIME

Question No. 15	YES		NO	
Student Responses	No.	%	No.	%
Marion	26	57.8	19	42.2
North Belle Vernon	34	75.6	11	24.4
Total	60	66.7	30	33.3

Chi-square: 3.20 No statistical significance

The North Belle Vernon group responded with 75.6 percent of

the children preferring the teacher to teach the entire class at the same time rather than individually or in small groups. Only 57.8 percent of the open classroom respondents indicated this preference. It appears that almost one-half of the Marion group value their individuality and in spite of the newness of the program, apparently like to proceed through materials either individually at a self-determined pace, or in small ability groups. Here, again, the child in a self-contained classroom who has not been exposed to the highly individualized instruction possible in "openness" can not judge its merits.

TABLE 16

I FEEL UNHAPPY WHEN OTHER CHILDREN DO SOMETHING BETTER THAN I DO

Question No. 16	YES		NO	
Student Responses	No.	%	No.	%
Marion	12	26.7	33	73.3
North Belle Vernon	12	26.7	33	73.3
Total	24	26.7	66	73.3

Chi-square: 0.00 No statistical significance

It is interesting to note that both groups had identical opinions for this question. Both at North Belle Vernon and Marion only 26.7 percent of the children indicated they feel unhappy when other children do something better than they do. Teachers in both open and conventional

environments have apparently successfully prevented the children from becoming anxious because of others' success. Large group, heterogeneous instruction has not, in terms of this data, created any intra-group resentment at North Belle Vernon. Identically, only the same small percentage of the students at Marion resented better performance on the part of their peers. It appears great effort is being made in both programs to prevent the children from becoming critical of one another.

TABLE 17

I WOULD RATHER DO ALMOST ANYTHING ELSE THAN SCHOOL WORK

Question No. 17	YES		NO	
Student Responses	No.	%	No.	%
Marion	14	31.1	31	68.9
North Belle Vernon	23	51.1	22	48.9
Total	37	41.1	53	58.9

Chi-square: 3.72 No statistical significance

In the Marion group 31.1 percent of the pupils surveyed indicated they would rather do almost anything else than school work as contrasted to the conventional classroom students at North Belle Vernon who responded with more than one-half (51.1%) indicating they would rather do anything else. This attitude is just on the border of significance at the .05 level. It greatly favors a positive attitude toward school present in the Marion open classroom group. Additionally, the response from

the North Belle Vernon group reflects another inconsistency. The children indicated in question one they looked forward to coming to school each morning. However, it reinforces their sentiments expressed in question four that they like to stay home from school, and in question eight that their school days seem like they will never end. The twenty percentage points difference in positive responses in the question suggests many more of the students in the Marion open group have accepted their daily tasks with ease and perhaps a degree of enjoyment.

TABLE 18

IT IS HARD FOR ME TO STAY HAPPY AT SCHOOL BECAUSE I WISH I COULD BE SOMEWHERE ELSE

Question No. 18	YES		NO	
Student Responses	No.	%	No.	%
Marion	8	17.8	37	82.2
North Belle Vernon	20	44.4	25	55.6
Total	28	31.1	62	68.9

Chi-square: 7.47 Level of significance: .01

The data examined in this question reveal a high degree of significance at the .01 level. Only 17.8 percent of the Marion children in the study expressed a desire to be somewhere other than school, while 44.4 percent of the children at North Belle Vernon indicated it is hard for them to stay happy at school because they wish they could be somewhere else. The high percentage of children (82.2%) at Marion who

expressed happy feelings about school suggests the possibility that the new program is satisfying the children's needs. The responses from question seventeen coupled with these indicate the child in an informal classroom might not be "happy but an idiot."[1] He might be genuinely happy, working, and making progress.

TABLE 19

OTHER CHILDREN ARE OFTEN NOISY AND BOTHER ME WHEN I'M TRYING TO DO MY SCHOOL WORK

Question No. 19	YES		NO	
Student Responses	No.	%	No.	%
Marion	41	91.1	4	8.9
North Belle Vernon	38	84.4	7	15.6
Total	79	87.8	11	12.2

Chi-square: 0.93 No statistical significance

Both groups were bothered significantly by noise--91.1 percent at Marion and 84.4 percent at North Belle Vernon--and it is interesting to speculate as to what "noise" meant to both groups. Does the same type of noise bother each group? Does the child in an informal classroom recognize the noise but better accepts it because he has the freedom to move from it physically, if he chooses, whereas, the seated

[1]Bruner, quoted in H. C. Sun, "The Open Classroom: A Critique," in Curriculum: Quest for Relevance, 2nd ed., edited by William Van Til (Boston: Houghton Mifflin Co., 1974), p. 224.

child in a conventional classroom cannot? Undoubtedly the noise level is significantly higher in open classrooms but, are the students in these settings more able to shut out this distraction? The responses made to this question lend themselves to further study and to possible recommendations concerning teacher-pupil ratios in open classrooms in order to minimize the possibility of disturbance.

TABLE 20

SCHOOL IS A HAPPY PLACE FOR ME TO BE

Question No. 20	YES		NO	
Student Responses	No.	%	No.	%
Marion	36	80.0	9	20.0
North Belle Vernon	36	80.0	9	20.0
Total	72	80.0	18	20.0

Chi-square: 0.00 No statistical significance

Both groups recorded identical responses for this question--80.0 percent indicated that school is a happy place for them both at Marion's open classroom and at North Belle Vernon's conventional setting. Responses here, as in question seventeen, lend themselves to even deeper analysis and further speculation. Did most of the students in both groups, because this was the last question in the survey, lay aside all thought and openly reveal that school is a happy place for them in spite of varying conditions? Is the teacher, in any setting, in

any period of time, still the only factor in forming a child's attitude toward school and his ultimate success or failure? Will the open concept be followed by still newer approaches attempting to answer the ageless query--"How shall we teach?"

In light of the analyses presented, findings, conclusions and recommendations follow in Chapter V.

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Findings

Utilizing chi-square analysis to determine whether significant differences in attitude toward school exist between the open classroom group at Marion and the conventional classroom group at North Belle Vernon, chi-square values of 3.84 at the .05 level and 6.63 at the .01 level were necessary to reflect significance for each question. The following findings resulted:

1. Although not significant, a chi-square value of 3.27 favored the conventional group at North Belle Vernon--86.7 percent of whom looked forward to coming to school each morning as opposed to 71.1 percent in the open classroom.

2. When considering the presence of different learning activities from which they can choose what they like to do, a statistically significant 5.29 chi-square value was found favoring the children in the open classroom--100.0 percent responded affirmatively in contrast to 88.9 percent from North Belle Vernon.

3. A highly significant 17.29 chi-square value at the .001 level was obtained when in the Marion group, 84.4 percent of the children found the grown-ups at school friendly; 42.2 percent responded similarly at North Belle Vernon.

4. There was little disparity (chi-square value of 0.18) between the two groups when the desire to stay home from school was considered--42.2 percent of the open group and 46.7 percent of the conventional group responded affirmatively.

5. When appraising the appearance of the school, 95.6 percent of the open group indicated they thought their school looked nice as

opposed to 73.3 percent at North Belle Vernon. A highly significant 8.46 chi-square value (.01) was obtained here.

6. When asked if a new child could make friends easily in their class, 82.2 percent of the open group responded "yes" in contrast to 68.9 percent at North Belle Vernon. A chi-square value of 2.17 indicated no significant difference.

7. When comparing the two groups' attitude concerning school being too much work, no significant difference was found (chi-square value of 0.07). However, it was the North Belle Vernon group which responded more positively--80.0 percent, as opposed to 77.8 percent at Marion.

8. The open group displayed a significant (.01) positive attitude (chi-square value of 8.82) when considering "most school days seem like they will never end." Only 40.0 percent at Marion responded "yes" in contrast to 71.1 percent at North Belle Vernon.

9. When assessing whether their school has events all the time that make them happy they attend school there, 80.0 percent of the Marion group responded "yes" with 60.0 percent of the conventional group responding similarly, yielding a chi-square value of 4.29 which was significant at the .05 level.

10. The positive responses favored the open group when appraising the "good feeling" in school--71.1 percent Marion; 55.6 percent North Belle Vernon but there was no statistical significance (2.34 value) found in the chi-square analysis.

11. No significant difference was found (2.86 chi-square value) between the two groups when judging the school as a good place for making friends. However, 97.8 percent of the North Belle Vernon group responded "yes" in contrast to 88.9 percent at Marion.

12. Just bordering on significance at the .05 level, with a chi-square value of 3.55, almost eighty-nine percent of the Marion group and 73.3 percent of the North Belle Vernon group responded they like school because there are so many interesting things to do.

13. The disparity in question thirteen is not statistically significant (chi-square value of 2.86). Almost ninety-eight percent of the open group and 88.9 percent of the North Belle Vernon group stated their teacher is never too busy to help them.

14. A statistical variance (chi-square value of 4.73) was found in question fourteen. Only 15.6 percent of the Marion open group expressed the opinion that it would be nice if they never had to

return to school again as contrasted to 35.6 percent at North Belle Vernon.

15. Although statistically not significant (chi-square value of 3.20), 42.2 percent of the Marion group preferred small group and individualized instruction; only 24.4 percent indicated this preference at North Belle Vernon.

16. Responses were identical when considering the success of other children; 26.7 percent of the children at both schools feel unhappy when other children do something better than they do. (A chi-square value of 0.00 was obtained)

17. Bordering on significance with a chi-square value of 3.72, question seventeen favors the open group; 31.1 percent at Marion as opposed to 51.1 percent at North Belle Vernon expressed a desire to do almost anything else other than school work.

18. A high percentage (82.2%) of the children in the open group expressed positive feelings about staying happy at school in contrast to North Belle Vernon (55.6%). Here, a chi-square value of 7.47 was significant at the .01 level.

19. No significant difference (chi-square value of 0.93) was found when evaluating noise in school; 91.1 percent of the Marion group and 84.4 percent of the North Belle Vernon group found the distraction annoying.

20. For the second time in the survey, the responses from the two groups were identical; 80.0 percent of the children at both Marion and North Belle Vernon expressed an opinion that school is a happy place for them to be. (Chi-square value of 0.00)

Conclusions

The proponents of open education agree openness is a state of mind. Carpeting, carrels, and open spaces do not guarantee a good educational system, nor do workbooks, desks in rows, and quiet. The key to success in any program is the teacher and her relationship to students. If each child has self-respect and is respected by the teacher, if each child is motivated and helped to achieve in light of his own capabilities, he is

likely to be happy and successful regardless of the system.

Open classrooms are everywhere no matter how it appears to an observer. Surroundings have little to do with it. The effective teacher creates a positive feeling in a classroom and approaches her tasks in the most humanitarian way, whatever the program.

In light of this study, it appears that for many of the children in the Belle Vernon Area School District, openness has provided a setting where both teachers and the students are functioning with a large degree of success. Statistically significant positive attitudes were found in seven out of twenty areas of inquiry with the Marion open classroom group. The null hypothesis, therefore, cannot be totally accepted. The children at Marion expressed more positive feelings concerning the availability and use of varied learning activities and regarding school events scheduled for their enrichment. More positive attitudes were found toward the adults at school, and they expressed greater pride in the physical appearance of the school. To three key questions in the survey concerning general sentiment toward school, significant positive attitudes were found in the Marion group giving support to the open concept whatever its form.

Just bordering on significance but highly favorable to the open group were the attitudes compared assessing the availability of interesting things to do in school each day, and the satisfaction enjoyed completing school work.

Four reversals in attitude, although not statistically significant, were found. The children in the conventional classroom looked forward

more to coming to school each morning and expressed less dismay at the daily school work load. They expressed more positive feelings about making friends in school and noise disturbances.

Both groups expressed identical opinions concerning other childrens' performance and school being a happy place.

In the five remaining opinions, no statistical significance was found. However, the percentages favored the open group who displayed more positive attitudes in a desire to be in school each day, feeling good in school, helping a new child in school, teacher help, and grouping.

The writer has concluded that regardless of the program an effective teacher can create a classroom climate of love and concern and can individualize instruction that reflects the childrens' strengths and weaknesses. However, the effective teacher in the open classroom has, in areas, a distinct advantage over her counterpart. She is functioning in an environment more compatible with the needs of children living today--and they are responding to it!

Recommendations

On the basis of this research, the author makes the following recommendations:

1. In order to implement fully the concept basic to the success of an open classroom program, teacher-pupil ratios should not exceed 1 to 20.
2. The training and retraining of teachers and others related to

the program is a mandatory component of openness. It must be continuous.

3. A broader area of investigation following this study might be undertaken in which the researcher would consider such delimitations as mental age, I.Q., achievement scores, or socio-economic background.

4. Further studies might investigate childrens' self-image in an open classroom environment as opposed to a conventional setting.

5. Additional investigations could compare the oral and written expressions of children from the open and the conventional classrooms.

APPENDIX A

THE QUESTIONNAIRE

		YES	NO
1.	Each morning I look forward to coming to school . .	1. ☐	☐
2.	There are many different learning activities at school from which I can choose what I would like to do.	2. ☐	☐
3.	All the grown-ups at my school are friendly.	3. ☐	☐
4.	I like to stay home from school	4. ☐	☐
5.	My school looks nice	5. ☐	☐
6.	I think a new child could make friends easily in my class	6. ☐	☐
7.	I don't like school because it's too much work. . . .	7. ☐	☐
8.	Most school days seem like they will never end . . .	8. ☐	☐
9.	This school has events all the time that make me happy I attend school here	9. ☐	☐
10.	I feel good when I'm at school	10. ☐	☐
11.	School is a good place for making friends	11. ☐	☐
12.	I like school because there are so many interesting things to do	12. ☐	☐
13.	My teacher is too busy to help me when I need help.	13. ☐	☐
14.	It would be nice if I never had to come back to school again after today	14. ☐	☐
15.	I like it when my teacher teaches the entire class at the same time	15. ☐	☐
16.	I feel unhappy when other children do something better than I do	16. ☐	☐
17.	I would rather do almost anything else than school work.	17. ☐	☐
18.	It is hard for me to stay happy at school because I wish I could be somewhere else	18. ☐	☐
19.	Other children are often noisy and bother me when I'm trying to do my school work	19. ☐	☐
20.	School is a happy place for me to be.	20. ☐	☐

APPENDIX B

COMPARATIVE DATA

COMPARATIVE DATA
Marion and North Belle Vernon
February 1975

Question	Marion		North Belle Vernon		Chi-square
	Yes	No	Yes	No	
1. Each morning I look forward to coming to school.	32	13	39	6	3.27
2. There are many different learning activities at school from which I can choose what I would like to do.	45	0	40	5	5.29
3. All the grown-ups at my school are friendly.	38	7	19	26	17.29
4. I like to stay home from school.	19	26	21	24	0.18
5. My school looks nice.	43	2	33	12	8.46
6. I think a new child could make friends easily in my class . .	37	8	31	14	2.17
7. I don't like school because it's too much work	10	35	9	36	0.07
8. Most school days seem like they will never end.	18	27	32	13	8.82
9. This school has events all the time that make me happy I attend school here	36	9	27	18	4.29
10. I feel good when I'm at school	32	13	25	20	2.34
11. School is a good place for making friends	40	5	44	1	2.86
12. I like school because there are so many interesting things to do.	40	5	33	12	3.55

COMPARATIVE DATA--Continued

Question	Marion		North Belle Vernon		Chi-square
	Yes	No	Yes	No	
13. My teacher is too busy to help me when I need help. .	1	44	5	40	2.86
14. It would be nice if I never had to come back to school again after today	7	38	16	29	4.73
15. I like it when my teacher teaches the entire class at the same time	26	19	34	11	3.20
16. I feel unhappy when other children do something better than I do	12	33	12	33	0.00
17. I would rather do almost anything else than school work	14	31	23	22	3.72
18. It is hard for me to stay happy at school because I wish I could be somewhere else	8	37	20	25	7.47
19. Other children are often noisy and bother me when I'm trying to do my school work	41	4	38	7	0.93
20. School is a happy place for me to be	36	9	36	9	0.00

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